

Applicant : Yusuke Igarashi et al.
Serial No. : 10/733,726
Filed : December 11, 2003
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Attorney's Docket No.: 14225-032001 / F1030573US00

Amendments to the Drawings:

The attached replacement sheet of drawings includes changes to Figs. 14 and 15 and replaces the original sheet including Figs. 14 and 15.

In Figure 14, the legend "Prior Art" has been added.

In Figure 15, the legend "Prior Art" has been added.

Attachments following last page of this Amendment:

Replacement Sheet (1 page)

Annotated Sheet Showing Change(s) (1 page)

REMARKS

Claims 1-23 are pending. Claims 10-17 were withdrawn. Claims 1 and 6 have been amended. Claims 3, 5 and 9 have been canceled. New claims 18-23 have been added.

Claim Rejections

Claims 1 and 3-5 were rejected as unpatentable over Applicant's admitted prior art in view of U.S. Patent No. 6,143,981 (Glenn).

Applicants have amended claim 1 to recite "wherein a protrusion is formed *continuously at every side surface of the conductive patterns* and the insulating resin is adhered to every protrusion." Such an arrangement may enhance the structural integrity of a circuit device. Support for that amendment can be found, for example, with reference to FIG. 2B. No new matter has been added. The cited prior art simply fails to disclose such an arrangement.

The prior art indicated by FIG. 15 of the present application includes a circuit device 80 with conductive patterns 81 separated from each other. A circuit element 82 is affixed to one of the conductive patterns 81. An insulating resin 83 covers the circuit element 82 and the conductive patterns 81 and also fills the space between adjacent conductive patterns 81.

Referring to FIG. 3 of the Glenn patent, a central peaks 34 extend outward from certain side surfaces 27 and 33 of a die pad 24 and a tab 30, respectively. Encapsulant material fills the area between side surfaces 27 and 33 so that the central peaks 34 extend into the encapsulant material. (See column 4, lines 37-42)

Neither the Applicant's admitted prior art nor the Glenn patent discloses or suggests a protrusion formed *continuously at every side surface of the conductive patterns* where the insulating resin adheres to every protrusion, as claim 1 recites. In the Glenn patent, the central peaks 34 do not extend from every side surface of the die pad 24 and the tabs 30. Those central peaks 34 only extend from certain surfaces. For example, only the side surfaces 33 of the tabs that face toward the die pad 24 include central peaks 34. Each tab 30 includes at least two other side surfaces which do not include protrusions formed continuously thereupon. Similarly, the

side surfaces 27 of the die pad 24 that connect to the mushroom shaped anchors 29 do not include continuous protrusions formed thereupon.

Claim 1 should be allowable for at least the foregoing reasons.

Claim 3 has been canceled. Claims 4 and 5 depend from claim 1 and, therefore, should be allowable for at least the same reasons as claim 1.

Claims 6, 8 and 9 also were rejected under 35 U.S.C. §103(a) over the Applicant's admitted prior art in view of the Glenn patent.

Claim 6 has been amended in a manner similar to claim 1. Claim 6, therefore, should be allowable for at least the same reasons as claim 1.

Claims 8 depends from claim 6 and, therefore, should be allowable for at least the same reasons as claim 6. Claim 9 has been canceled.

Claims 2 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art in view of the Glenn patent and in further view of U.S. Patent No. 5,157,475 (Yamaguchi).

Claims 2 and 7 depend from claims 1 and 6, respectively. None of the asserted references discloses or suggests a protrusion formed continuously at every side surface of the conductive patterns and the insulating resin adhering to every protrusion, as recited by claims 1 and 6. Claims 2 and 7, therefore, should be allowable for at least that reason.

Drawing Objections

The drawings were objected to because FIGs. 14 and 15 should have been designated by a legend such as "Prior Art," because only that which is old is illustrated. FIGs. 14 and 15 have been amended to include the legend "Prior Art."

Applicants respectfully request withdrawal of the drawing objections.

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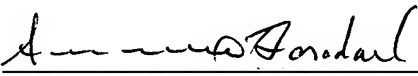
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It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

No fee is believed to be due. However, please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 3/10/05



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FIG. 14

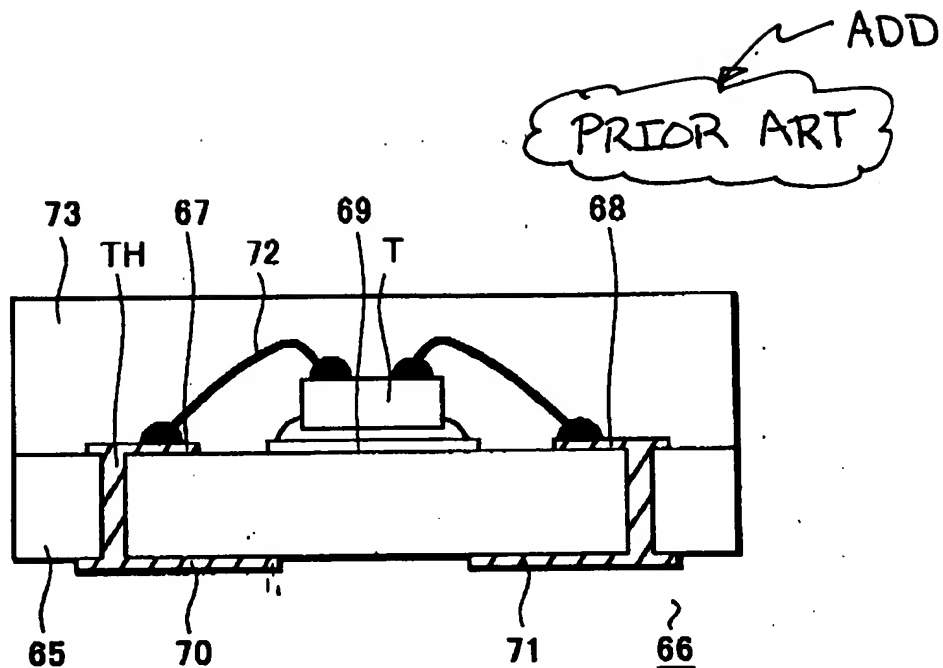


FIG. 15

